

TITLE: ISOLATION, IDENTIFICATION, AND ANTIMICROBIAL SUSCEPTIBILITY PROFILE OF *Staphylococcus* spp. ON MOBILE PHONES of MEDICAL STUDENTS

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ABSTRACT:

Currently, mobile phones are the most indispensable accessory of professional and social life throughout the world. The constant handling of mobile phones by users exposes to an array of microorganisms, and thus makes a good carrier for bacteria. Generally, in addition to the human hands can be contaminated with different bacterial pathogens, medical students frequently utilize cell phones in laboratory classes, and through every phone call, SMS, or other use, there is a risk that the mobile phone comes into contact with contaminated areas of the human body, such as the hands, mouth, and ears. Furthermore, cell phones may act as a favorable habitat for bacteria to colonize, such as *Staphylococcus* spp., especially under high temperature and humid conditions. The current study aimed to isolate and identify the *Staphylococcus* species that contaminate mobile phones, as well as to determine the antimicrobial susceptibility profile of these isolates among university medical students' cell phones. Surfaces of 15 mobile phones of randomly chosen from medicine students in Governador Valadares, Minas Gerais State, Brazil, were aseptically swabbed. Overall, 75 strains were isolated from all cell phone samples collected in the present study, and identified as *Staphylococcus* spp., eight of which were identified as positive coagulase and all others as negative coagulase. In addition, all of those strains were tested for drugs susceptibility by Kirby-Bauer test using penicillin, oxacillin, gentamycin, tetracycline, and cefoxitin, wherein 88% (66/75) were penicillin resistant, 11% (5/75) and 4% (3/75) were tetracycline resistant and intermediary resistant, respectively, 26,66% (20/75) were oxacillin resistant, and for gentamycin and cefoxitin no resistance phenomenon was observed. The occurrence of antimicrobial resistance in pathogenic and opportunistic bacteria is of special concern, especially in relation to the potential transmission of genetic determinants among bacteria. So, the awareness of active preventive strategies, such as hand washing, is needed to reduce the risk of any kind of infection by mobile phone contaminated.

Keywords: *Staphylococcus*, Mobile phone, Antimicrobial profile.